

**What is claimed is:**

1. A method for obtaining an image reference block in a code mode of fixed reference frame number, comprising the steps of:

(a) performing motion estimation for each block of a current B frame and obtaining a motion vector MV of a corresponding block of a backward reference frame;

(b) discriminating whether the motion vector is beyond a maximum forward reference frame which is possibly pointed by the B frame, if not, proceeding to step (c); else, proceeding to step (d);

(c) a forward motion vector and a backward motion vector of a macro block being able to be calculated by the following formulas:

assuming  $MV_F$  and  $MV_B$  as a forward motion vector and a backward motion vector of a current block,

$$MV_F = \frac{tb}{td} \times MV$$

$$MV_B = \frac{tb - td}{td} \times MV$$

here, tb is a distance in time domain between a current picture and a forward reference picture, and td is a distance in time domain between a forward reference picture and a backward reference picture;

(d) a forward motion vector and a backward motion vector of the macro block being able to be calculated by the following formulas:

assuming  $MV_F$  and  $MV_B$  as a forward motion vector and a backward motion vector of a current block,

$$MV_F = \frac{tb'}{td} \times MV$$

$$MV_B = \frac{tb - td}{td} \times MV$$

here, tb is a distance in time domain between a current picture and a forward reference picture, td is a distance in time domain between a forward reference picture and a backward reference picture, and

tb' is a distance in time domain between the current B frame and the forward reference frame which is possibly pointed by the B frame;  
(e) two image blocks pointed by the  $MV_B$  and  $MV_F$  being image reference blocks corresponding to the macro block.

2. The method for obtaining an image reference block in a code mode of fixed reference frame number as claimed in claim 1, wherein said obtaining a motion vector MV of a corresponding block of a backward reference frame in said step (a) includes:

selecting a macro block with the same position as a macro block to be encoded in B frame to be a corresponding macro block from a backward reference P frame, and obtaining a motion vector of the macro block in P frame.

3. The method for obtaining an image reference block in a code mode of fixed reference frame number as claimed in claim 1, wherein said discriminating whether the motion vector of the corresponding block in the backward reference frame is beyond a maximum forward reference frame which is possibly pointed by the B frame in step (b) includes: comparing whether a time domain obtaining the maximum forward reference frame which is possibly pointed by the B frame is larger than or equals to a time domain of a forward reference frame pointed by the motion vector of the corresponding block in the backward reference frame, if yes, then not beyond the maximum forward reference frame which is possibly pointed by the B frame; else, beyond it.